ARIZONA CORPORATION COMMISSION
SPECIAL OPEN MEETING MINUTES

DATE: March 23, 2001

TIME: 12:30 p.m.

PLACE: Arizona Corporation Commission, Pipeline Safety Conference Room, 1200 W. Washington, Phoenix, Arizona 85007

ATTENDANCE: No Quorum of Commissioners. See attendance list in Attachment 1.

TOPIC: ENVIRONMENTAL PORTFOLIO STANDARD (EPS) WORKSHOP

MATTERS DISCUSSED:

Ray Williamson of Commission Staff welcomed everyone to the meeting. All participants introduced themselves. Mr. Williamson mentioned the special Open Meeting scheduled for March 29, 2001, and described Staff's recommendations regarding the requests for rehearing and reconsideration.

The minutes from the February 15, 2001, meeting were discussed. The following change was made in the fifth line of the second paragraph: replace "solar air conditioning" with "solar water heating."

A question was raised about standards for technologies not ranked as "high priority." Mr. Williamson welcomed participants to send suggested standards to him electronically, and he will circulate them to the group.

There was discussion about Issue No. 8 (Who owns the credits when the resources are installed in other service areas?). Pages 31-32 of Decision No. 63364 address the issue.

The group reviewed the Master Issues List. The following issues were added:

29. *Establish methodology to determine solar content of solar/fuel hybrid generation system.*

30. *Can unused affiliate credits be sold?*

31. *Reporting guidelines (what, when, how)*

32. *Can a Load-Serving Entity sell credits?*

33. *How is retail load calculated?* Mr. Williamson explained that retail load is the load you are serving.

34. *If a Load-Serving Entity has a shortfall in one year, does it carry over to the next year?*

35. *Are details required in reports?*

36. *At what point does a Load-Serving Entity start getting surcharge money? What about green-only providers?* Mr. Williamson explained that an Electric Service Provider (ESP) would start receiving funds when it makes the election to opt in. The ESP would get the prorated portion of the surcharge equivalent to the portion of a customer's load being served by the ESP.

37. *Develop customer scenarios.*

The group prioritized the issues on the Master Issues List along with the ones added at the meeting. The following issues were ranked as high priority: 1, 6, 7, 8, 9, 12, 13, 23, 36, and 37. Issues 3 and 4 were ranked as medium priority. The group did not rank the other issues.

Carl Dabelstein of Citizens Utilities presented a report from the Accounting Issues Subcommittee. The subcommittee has identified areas of the rules that need accounting consideration. Areas include Issue 16, regulatory liability regarding deficiency payments, Utility Distribution Companies providing prorated surcharge money to ESPs, and the trading of credits. Anyone who wants to join the subcommittee can contact Mr. Dabelstein at cdabelst@czn.com.

Mr. Williamson distributed draft standards for solar water heating. (See Attachment 2.) The following suggestions/comments were made: (1) add "unless installed by owner" to the second and third items under Residential Systems and to the second item under Non-Residential Systems, (2) the Commission does not need to include consumer protection in standards, (3) ignoring consumer protection could lead to a black eye on the industry, (4) the Arizona Department of Commerce has requirements for tax credits, (5) add OG-100 standard, (6) the Load-Serving Entity will have standards to ensure that equipment performs properly, (7) there should be inspections instead of installation standards, and (8) references should be listed. Mr. Williamson suggested that anyone with comments on the proposed standard should e-mail those comments to him at rwilliamson@cc.state.az.us.

Mr. Williamson distributed a draft of photovoltaic standards. (See Attachment 3.) The following suggestions/comments were made: (1) put "national standards" back in first paragraph, (2) reduce the draft to just a couple of paragraphs because utilities should be allowed to set their own interconnection standards, (3) each standard should have the same introduction, (4) keep both Alternative A and Alternative B, (5) move the last two paragraphs

under "Systems Accessible by the Public" to Alternative A, (6) move Alternative B to start the "Utility Interactive Systems" section, (7) IEEE Standard 929 applies only to 10 kW and below, (8) Steve Chalmers volunteered to prepare a summary of the national standards referenced, (9) there is a need for a subcommittee on photovoltaic standards, (10) "recommend" rather than "require", (11) uses IEEE Standard 929 for small systems and keep extra costs to a minimum, (12) have standard for estimation of nonmetered output. Steve Chalmers agreed to chair the Subcommittee on Photovoltaic Standards. Other members are Tom Hansen, Lane Garrett, Cassius McChesney, and Steve Spanjer. Comments on the proposed standard should be e-mailed to rwilliamson@cc.state.az.us.

The next meeting of the working group will be held on April 20, 2001, at 12:30 p.m. in the Pipeline Safety Conference Room of the Commission. For the next meeting, participants should draft scenarios with questions. In addition, each participant should look at the high priority issues and suggest solutions. Mr. Williamson will look into the issue of separation of credits from kWh.

Barbara Keene, Utilities Division

Attachment 1

Participants at Environmental Portfolio Standard Workshop
March 23, 2001

Name	Organization
Bud Annan	Arizona Clean Energy Industries Alliance
David Berry	Navigant Consulting
Sean Breen	Citizens Utilities
Steve Chalmers	PowerMark
Chris Clark	ITCA
David Couture	Tucson Electric Power
Carl Dabelstein	Citizens Utilities
Gordon Fox	Commission Staff
Donald R. Garrett	Danneypat Solar
Lane S. Garrett	ETA Engineering. Inc.
Rick Gilliam	Land and Water Fund of the Rockies
Tom Hansen	Tucson Electric Power
Byford E. Hoffman	Salt River Project
Barbara Keene	Commission Staff
Phil Key	First Solar
Cassius McChesney	Pinnacle West
Paul Michaud	York Research Corp.
Rick Moore	Grand Canyon Trust
Daniel Musgrove	Universal Entech
Michael Neary	ARISEIA
David Rowley	Solar Farms, Inc.
Steve Spanjer	Kyocera Solar
John Wallace	Grand Canyon State Electric Cooperative Assoc.
Ray Williamson	Commission Staff

Solar Water Heating Standard **(DRAFT)**

In order for solar water heating systems to qualify as eligible for the Environmental Portfolio Standard, the systems and/or components must meet the following standards:

PERFORMANCE STANDARDS

Residential Systems:

Residential solar water heating systems shall be certified by the Solar Rating and Certification Corporation (SRCC) Standard OG-300 " "

Residential solar water heaters shall be installed by a licensed solar contractor.

The individual installing the system shall be a certified solar technician.

The system shall meet all applicable local building codes.

Non-Residential Systems:

The collector panels of the solar water heating system shall be certified by the Solar Rating and Certification Corporation Standard OG-100, " ", if that standard applies to the type of panel used.

The solar water heaters shall be installed by a licensed solar contractor.

The system shall meet all applicable local building codes.

PHOTOVOLTAIC STANDARDS

Rough Draft (R3-22-01)

Photovoltaic generating facilities installed in response to the Arizona Corporation Commission's Environmental Portfolio Standard shall **obtain all required permits and inspections indicating that the generating facility complies with local and other applicable safety codes** ~~comply with the applicable national standards and codes~~.

SAFETY STANDARDS

Systems Accessible by the Public:

Photovoltaic systems on buildings accessible by the public, shall utilize components listed by Underwriter's Laboratory (UL) or other approved facility, where they exist and be installed to comply with the local codes. (**Alternative A)**

Any generating facility that parallels with, or constitutes a potential backfeed source to the utility shall comply with the interconnection and safety requirements of that utility until such time as Arizona statewide interconnection requirements for distributed generation are approved and adopted for use by Arizona utilities. (**Alternative B)**

Photovoltaic panels and modules shall meet the UL Standard 1703: "Standard for Safety Flat-Plate Photovoltaic Modules and Panels."

Photovoltaic installations shall be installed in accordance with the National Electric Code Article 690: "Solar Photovoltaic Systems."

Utility Interactive Systems

Utility interactive photovoltaic systems shall meet the requirements of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) Standard 929: "Recommended Practice for Utility Interface of Photovoltaic (PV) Systems" and shall meet Underwriters Laboratories (UL) Standard 1741: "Standard for Safety- Static Inverters and Charge Controllers for Photovoltaic Systems."

Utility-Owned Systems, not accessible by the public:

Utility owned facilities that are not accessible by the public and only accessible by qualified persons may not be subject to compliance with local codes. The use by utilities of listed components and compliance to national codes and standards, such as the requirements of the National Electric Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and Underwriters Laboratories (UL) is recommended.

PERFORMANCE AND RELIABILITY STANDARDS

PV Modules :

Shall have been tested by the Arizona State University Photovoltaic Testing Laboratory or other approved facility

All PV modules shall have been tested and qualified to the US IEEE Standard 1262-1995: "Recommended Practice for Qualification of Photovoltaic (PV) Modules." Modules that have been tested and qualified to international module qualification standards are alternatives to IEEE Standard 1262. The alternative standards are:

- International Electrotechnical Commission (IEC) Standard 61215: "Crystalline Silicone Terrestrial Photovoltaic (PV) Modules – Design Qualification and Type Approval," or
- IEC Standard 61646: "Thin-Film Terrestrial Photovoltaic (PV) Modules – Design Qualification and Type Approval."

The PowerMark Corporation (PMC) program for Testing, Certification and Labeling of Photovoltaic Modules is required.

Panels or modules in solar electric R & D programs, within the limits authorized in R14-2-1618 B. 3., shall be exempt from testing and qualification requirements until the end of 2003.

Balance of System (BOS) Components for systems accessible by the public:

Photovoltaic installations shall be installed in accordance with the National Electric Code Article 690: "Solar Photovoltaic Systems."

If the photovoltaic systems are utility interactive, they must meet the requirements of the Institute of Electrical and Electronics Engineers, Inc.(IEEE) Standard 929: Recommended Practice for Utility Interface of Photovoltaic (PV) Systems.

MANUFACTURING FACILITY QUALITY

The modules and balance of system components shall have been produced in a manufacturing plant that has an current ISO 900X series quality system or be PowerMark Corporation (PMC) approved for the Photovoltaic products manufactured at the facility.

SYSTEM STANDARDS

None at this time. The commission Staff intends to adopt national and international system testing standards as they are developed and approved in the future.

Rough Draft
R 3-22-01

Notes & questions:

1. ASU testing & PowerMark certification
2. "qualified person" is this a generally used term? Is there a definition?
3. Merchant plants: do they qualify to the same exception from local codes as utilities?
4. ISO 900X: Should it be required immediately or at some specified time in the future to allow time to meet the requirement??